

**PATENT**

App. Ser. No.: 10/037,553

Atty. Dkt. No. ROC920010193US4

PS Ref. No.: IBMK10196

**IN THE CLAIMS:**

The claims remain as follows:

1. (Previously Presented) A computer-implemented method of for providing asynchronous network communications between a client and a server, comprising:
  - configuring a socket for an application on the server;
  - in response to a request from the client, issuing a single, continuous mode operation to the socket, wherein the single, continuous mode operation is selected from at least one of:
    - a single asynchronous accept operation, configuring a listening socket to process a plurality of incoming client connections; and
    - a single asynchronous receive operation, configuring a client socket to process a plurality of client requests.
2. (Cancelled)
3. (Previously Presented) The computer-implemented method of claim 1, further comprising, configuring the client socket, with the single asynchronous receive operation, to recognize a format of each of the plurality of client requests, whereby the client socket is configured to receive the client requests without invoking the application until the request is completely received.
4. (Previously Presented) The computer-implemented method of claim 1, wherein the single, continuous mode operations are issued from a main thread of the application.
5. (Previously Presented) The computer-implemented method of claim 1, wherein issuing the single asynchronous receive operation comprises:
  - placing a single pending receive data structure on a pending queue;

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for each completed client request, copying contents of the pending receive data structure to a completed receive data structure queued on a receive completion queue.

6. (Previously Presented) The computer-implemented method of claim 1, wherein issuing the single asynchronous accept operation comprises:

placing a single pending accept data structure on a pending queue;

for each of the plurality of incoming client connections, copying contents of the single pending accept data structure to a completed accept data structure queued on a accept completion queue, wherein the single pending accept data structure remains on the pending queue.

7. (Previously Presented) The computer-implemented method of claim 6, wherein issuing the single asynchronous receive operation comprises:

placing a single pending receive data structure on a pending queue;

for each completed client request, copying contents of the pending receive data structure to a completed receive data structure queued on a receive completion queue.

8. (Previously Presented) The computer-implemented method of claim 1, further comprising, for each completed client request, acquiring a buffer from system supply memory to contain the completed client request.

9. (Previously Presented) The computer-implemented method of claim 8, wherein allocating the buffer comprises sizing the buffer according to a size of the completed client request.

10. (Previously Presented) A computer readable storage medium containing a sockets-based program comprising at least one of a continuous mode accept application programming interface and a continuous mode receive application programming interface, wherein the sockets-based program, when executed, performs operations for processing messages, the operations comprising at least one of:

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configuring a listening socket to handle a plurality of incoming client connections, as a result of issuing a single asynchronous accept operation from an application; and

configuring a client socket to handle a plurality of client requests, as a result of issuing a single, asynchronous receive operation issued by the application.

11. (Cancelled)

12. (Previously Presented) The computer readable medium of claim 10, further comprising, configuring the client socket, with the single asynchronous receive operation, to recognize a format of each of the plurality of client requests, whereby the client socket is configured to handle receiving the client requests without invoking the application until the message is completely received.

13. (Previously Presented) The computer readable medium of claim 10, wherein the single asynchronous accept operation and the single asynchronous receive operation are issued from a main thread of the application.

14. (Previously Presented) The computer readable medium of claim 10, further comprising, when the single asynchronous receive operation is issued:  
placing a single pending receive data structure on a pending queue;  
for each completed client request, copying contents of the pending receive data structure to a completed receive data structure queued on a receive completion queue.

15. (Previously Presented) The computer readable medium of claim 10, further comprising, when the single asynchronous accept operation is issued:  
placing a single pending accept data structure on a pending queue;  
for each of the plurality of incoming client connections, copying contents of the single pending accept data structure to a completed accept data structure queued on a

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accept completion queue, wherein the single pending accept data structure remains on the pending queue.

16. (Previously Presented) The computer readable medium of claim 15, further comprising, when the single asynchronous receive operation is issued:  
placing a single pending receive data structure on a pending queue;  
for each completed client request, copying contents of the pending receive data structure to a completed receive data structure queued on a receive completion queue.

17. (Original) The computer readable medium of claim 10, further comprising, for each completed client request, acquiring a buffer from system owned memory space to contain the completed client request.

18. (Original) The computer readable medium of claim 17, wherein allocating the buffer comprises sizing the buffer according to a size of the completed client request.

19. (Previously Presented) A system in a distributed computer environment, comprising:  
a network facility configured to support a continuous mode network connection between a remote computer and a server computer;  
a memory, on the server computer, containing content comprising an application and a plurality of sockets application programming interfaces (APIs), wherein the sockets APIs comprise at least one of an asynchronous accept operation and an asynchronous receive operation;  
a processor which, when executing the contents, is configured to perform operations comprising at least one of:  
in response to a connection request, performing the single asynchronous accept operation to configure a listening socket to receive a plurality of incoming client connections; and

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in response to the asynchronous receive request, performing a single asynchronous receive operation to configure a client socket to receive a plurality of client requests.

20. (Cancelled)

21. (Original) The system of claim 19, wherein the content of the memory further comprises a system owned memory space and wherein the operations further comprise:

for each completed client request, acquiring a buffer from the system owned memory space to contain the completed client request.

22. (Original) The system of claim 19, wherein the content of the memory further comprises a system owned memory space and wherein the operations further comprise:

for each completed client request, acquiring a buffer from the system owned memory space to contain the completed client request, wherein the buffer is sized according to a size of the completed client request.

23. (Previously Presented) The system of claim 19, wherein the content of the memory further comprises a pending queue on which a single pending accept data structure is queued as a result of the single asynchronous accept operation.

24. (Original) The system of claim 23, wherein the content of the memory further comprises an accept completion queue to which contents of the pending accept data structure are copied upon receiving a client connection on the listening socket and wherein the pending accept data structure remains on the pending queue.

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25. (Previously Presented) The system of claim 19, wherein the content of the memory further comprises a pending queue on which a single pending receive data structure is queued as a result of the single asynchronous receive operation.

26. (Original) The system of claim 25, wherein the content of the memory further comprises a receive completion queue to which contents of the pending receive data structure are copied upon receiving a completed client request on the client socket and wherein the pending receive data structure remains on the pending queue.